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TITLE: Case Library for Standardization and Testing of a Breast

MRI Lexicon

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The goal of this project	was to develop an im	mage database to	include the	e spectrum of		
findings encountered on b	reast MR images, alo	ong with pertinen	t clinical	history and		
histopathologic findings.	The purpose of the	e image library w	as to suppo	ort the		
standardization and testi	ng of a breast MRI l	exicon, original	ly develope	ed as part of the		
International Working Gro	oups on Breast MRI. f	unded by the DHH	S Office of	n Women's Health		

Subsequent support for further refinement of the lexicon was provided by the Susan G. Komen Breast Cancer Foundation and the American College of Radiology. A library of 121 representative breast MRI cases were collected and included representative examples of each of the 26 possible combinations of findings for lesion type, shape/margin and internal enhancement patterns that comprise the current breast MRI lexicon. Groups were asked to provide cases demonstrating specific feature combinations and were also asked to provide relevant associated clinicalinformation and histopathologic outcome. Breast MR images were formatted with case histories and pathologic diagnosis and compiled into a library that was subsequently used in multi-reader studies. The formatted cases will be used to illustrate the ACR BI-RADS® MRI Lexicon, which is currently in preparation.

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Project Period May 14, 2001 - May 13, 2002

Principal Investigator: Nola Hylto

Nola Hylton, Ph.D., University of California, San Francisco

Grant Title:

Case Library for Standardization and Testing of a Breast MRI Lexicon

INTRODUCTION

The goal of this project was to compile a database of breast MR images representing the spectrum of benign and malignant disease findings along with pertinent clinical history and histopathologic data. The purpose of the library was to support the development and testing of a breast MRI lexicon developed by the DHHS and Office on Women's Health International Working Group on Breast MRI, with support from the Susan G. Komen Breast Cancer Foundation and the American College of Radiology (ACR).

BODY

During this 1-year effort, a library of 121 representative breast MRI cases were collected and included representative examples of each of the 26 possible combinations of findings for lesion type, shape/margin and internal enhancement patterns that comprised the current breast MRI lexicon. Cases were solicited from high volume breast MRI sites, including the groups participating in the NCI-sponsored International Breast MRI Consortium and the International Working Group in Breast MRI. Groups were asked to provide cases demonstrating specific feature combinations and were also asked to provide relevant associated information including patient age, reason for referral, clinical history, results of diagnostic procedures and histopathologic outcome. Cases were requested with all patient-identifying information removed; the study was conducted under an IRB exemption at UCSF. Breast MR images were formatted with case histories and pathologic diagnosis and compiled into a library that was subsequently used in multi-reader studies. The formatted cases will be used to illustrate the ACR BI-RADS® MRI LexiconTM, which is currently in preparation.

Key Accomplishments

- Collection of 121 case examples from 11 institutions in the US and Europe
- Formatting and compilation of case examples with descriptive text
- Completed illustrated cases for the ACR BI-RADS® MRI Lexicon™

Reportable Outcomes:

The PI is a Co-Chair along with Dr. Debra Ikeda at Stanford University, of the ACR Breast MRI Lexicon Committee. An illustrated publication of the ACR BI-RADS® MRI LexiconTM, containing

images extracted from the case library, has been submitted to the American College of Radiology and is currently being prepared for publication.

Conclusions

The goal of collecting and compiling a library of breast MR images was successfully accomplished, providing a comprehensive database for the purpose of testing and refining the terminology of a breast MRI lexicon. The ACR BI-RADS® MRI LexiconTM is expected to be widely disseminated as the standard for breast MR image interpretation and reporting, analogous to the mammographic BI-RADS®.

Bibliography

Ikeda DM, Hylton NM, Kuhl CK, Weinreb JC, Morris EM, Kinkel K, Hochman MG, Kaiser WA, Lewin J, Degani H, Viehweg P, Schnall MD. ACR-Breast Imaging and Reporting System-Magnetic Resonance Imaging. (ACR, in preparation)

Presentation

Meeting of the International Working Group on Breast MRI Lesion Diagnosis Working Group April 18-20, 2002 Dallas, Texas

Personnel receiving pay

Catherine Klifa, Ph.D., Co-Investigator, Department of Radiology, UCSF